CLAIMS:

1. A method of building a direct smelting plant comprising:

locating a ring track of a ringer crane on a plant site such that a lifting boom of the ringer crane can sweep a ground area about the ringer track;

installing a metal smelting vessel and ancillary plant components within said swept ground area by lifting with the crane the vessel and ancillary plant components either as prefabricated whole units or in prefabricated pieces into locations within the swept ground area, but so as to leave an elongate corridor of vacant ground extending through the swept area to the ring track;

lowering the boom down into the corridor; and

dismantling and removing the ringer crane and leaving at least part of the corridor available for vehicular access to the metal smelting vessel.

2. A method as claimed in claim 1, wherein a major part of the corridor is left available for vehicular access to the smelting vessel and at least some of said auxiliary components.

3. A method as claimed in claim 1 or claim 2, wherein the ring track of the ringer crane is a circular track and is spanned by a crane carriage extending diametrically across the track and rotatable about a central vertical axis.

4. A method as claimed in claim 3, wherein the boom of the crane is in use attached to the carriage at one side of the carriage generally above the track and the crane counterweight or counterweights are supported on the

carriage generally over the track at or toward an opposite side of the carriage.

5. A method as claimed in any one of the preceding claims, wherein the major plant components comprise any one or more of vessel input gas heaters and ducting, vessel input solids feed apparatus, offgas ducting and treatment apparatus, and molten metal and slag tapping and handling apparatus.

6. A method as claimed in any one of the preceding claims, wherein at least some of the ancillary plant components are positioned at locations spaced along the corridor.

7. A method as claimed in claim 6, wherein the ancillary plant components positioned at locations spaced along the corridor are positioned generally in rows spaced to either side of the corridor.

8. A method as claimed in any one of the preceding claims, wherein the smelting vessel is be positioned at an end of the corridor.

9. A method as claimed in claim 8, wherein the reduction vessel is initially located adjacent the crane ring track in alignment with the corridor and at least some of the ancillary plant components are located generally in rows extending from the smelting vessel along and to either side of the corridor.

10. A method as claimed in any one of the preceding claims wherein the crane is assembled initially by laying the boom out along the ground which is to form the corridor and then erecting the boom to extend upwardly from the ring track.

11. A method as claimed in claim 10, wherein following assembly of the crane the vessel and major plant components are transported to the corridor area and lifted from that area by the crane into said locations.

12. A method of building a direct smelting plant consisting of a smelt reduction vessel and ancillary plant using a heavy lift crane, comprising:

forming a load bearing base for the heavy lift crane on the site of the direct smelting plant;

locating the heavy lift crane on the load bearing base and assembling the lifting boom to the carriage of the crane so as to enable the boom to sweep a ground area about the carriage to thereby provide a swept ground area;

installing the smelt reduction vessel and ancillary plant components within said swept ground area by lifting with the crane the vessel and ancillary plant components either as prefabricated whole units or in prefabricated pieces into locations within the swept ground area while leaving an elongate corridor of vacant ground extending through the swept area to the carriage;

lowering the boom down into the corridor; and

dismantling and removing the crane and leaving at least part of the corridor available for vehicular access to the metal smelting vessel.

13. A method as claimed in claim 12, wherein installation of additional plant and equipment subsequent to removal of said crane from said site is such as to provide that a major part of the corridor is left available for vehicular access to the smelting vessel and at least some of said auxiliary components once said plant is operational.

14. A method as claimed in claim 12 or claim 13 further comprising selecting ancillary equipment and / or components for installation within at least a portion of said swept ground area,

said selection such that the ancillary equipment and / or components have a maximum elevation that is restricted whereby the lifting boom of the heavy lift crane can lift said prefabricated whole units or said prefabricated pieces over said ancillary equipment located within said at least a portion of said swept ground area; and

installing said auxiliary equipment and / or components within said at least a portion of said swept ground area.

15. A method according to claim 14 further comprising selecting one or more locations for said ancillary equipment and / or components within said swept ground area so as to enable said boom of said heavy lift crane to sweep at least a 100 degree arc when lifting said equipment and / or components.

16. A method as claimed in claim 14 or claim 15 wherein said at least a portion of said swept ground area comprises one or both elongate boundaries of said corridor.

17. A method as claimed in any one of claims 14 to 16 wherein said maximum elevation is 40 meters.

18. A method as claimed in any one of claims 12 to claim 17 further comprising selecting locations for installing with said heavy lift crane at selected locations on said site one or more prefabricated whole units or prefabricated pieces having a weight exceeding 90 metric tons,

said locations selected so as to be within a swept area having a radius from said carriage that is at most 50% of the length of said corridor.

19. A method as claimed in claim 18 wherein said one or more prefabricated whole units or prefabricated pieces having a weight exceeding 90 metric tonnes includes one or more of: smelt reduction vessel, vessel input gas heaters and off-gas ducting.

20. A method as claimed in any one of claim 18 or claim 19 wherein said radius is within the range of 10% to 45% of the length of the corridor.

21. A method as claimed in any one of claims 12 to 20 further comprising installing with said heavy lift crane at selected locations on said site one or more prefabricated whole units or prefabricated pieces at a maximum elevation above the load bearing base that exceeds 45 meters, said locations selected so as to be within a swept area having a radius from said carriage that is at most 50% of the length of said corridor to thereby provide said lifting boom with sufficient vertical reach for said installation.

22. A method as claimed in claim 21 wherein said prefabricated whole units or prefabricated pieces installed having a maximum elevation above the load bearing base exceeding 45 meters are installed within said swept area so as to be sufficiently remote from at least one elongate edge of said corridor as to enable said crane boom to sweep an arc of at least 100 degrees when lifting a prefabricated whole unit or piece.

23. A method as claimed in any one of claim 21 or claim 22 wherein said one or more prefabricated whole units or prefabricated pieces installed at a height exceeding 45 meters includes one or more of: off-gas ducting and ore pre-treatment apparatus.

24. A method as claimed in any one of claim 21 to claim 23 wherein said radius is within the range of 10% to 45% of the length of said corridor.

25. A method as claimed in any one of claim 12 to claim 24 wherein foundations for at least one of the smelt reduction vessel and the ancillary plant are put in place prior to placing the heavy lift crane onto the load bearing base.

26. A method as claimed in claim 25 wherein piping support structures are put in place prior to placing the heavy lift crane onto the load bearing base

27. A method as claimed in claim 11 wherein said heavy lift crane installs ancillary equipment adjacent to or within the piping support structures and the method further comprising connecting said ancillary equipment to piping installed on said piping support structure.

28. A method as claimed in claim 27 wherein part of said piping support structures form at least one elongated boundary of the corridor

29. A method as claimed in claim 3 or 6 wherein the heavy lift crane is a ringer crane having a ring track located on the load bearing base.

30. A method as claimed in any one of claims 12 to 29 wherein the crane is assembled initially by laying the boom out along the ground which is to form the corridor and then erecting the boom to extend upwardly from the ring track.

31. A method as claimed in claim 30, wherein following assembly of the crane the vessel and major plant components are transported to the corridor area and lifted from that area by the crane into said locations.

32. A method as claimed in any one of claims 12 to 31, wherein the crane carriage is removed by moving along the corridor.